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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,919	08/29/2003	Hideyuki Kaneko	1188-0115P	7975

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EXAMINER

ASINOVSKY, OLGA

ART UNIT PAPER NUMBER

1711

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

10/650,919

Applicant(s)

KANEKO ET AL.

Examiner

Olga Asinovsky

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-- Th MAILING DATE of this c mmunication appears on th c ver sheet with the corresp ndence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Pri rity under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's election with traverse of Group I, claims 1-3 and 5-9 in the reply filed on December 02, 2004 is acknowledged. The traversal is on the ground(s) that the "styrene derivative recited in claim 4 is only introduced into Z in formula (I), and that the aromatic ring does not become a part of the polyolefin macromonomer (P)." The examiner agreed. In the formula (I) in claim 1, the Z unit is recited under Markush group, that Z is an ester group (B1) or a phenylene group (B2). Thus, the ester group can be derived from aliphatic carboxylate. The phenylene group having a functional group is related to a styrene derivative in claim 4. Therefore, claim 4 is a separate invention. The applicants' argument is not persuasive.
2. The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

3. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the formula for X, line 17 should be corrected because atom C has four valences.

In claim 2, line 9, point should be replaced with semicolon.

In claim 3, line 13, point should be replaced with semicolon.

In independent claim 5, there is no definition for formula (I). Therefore, a graft polymer in the independent claim 5 is indefinite.

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Claims 6-9 are rejected in light of their dependency directly or indirectly on the rejected claim 5.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lane et al U.S. Patent 6,306,963 or Schlaefer et al U.S. Patent 5,856,611, or JP 06329720 (cited by applicants) each in view of Tatsumi et al U.S. Patent 6,573,352.

6. Lane discloses a vinyl-terminated polymer comprising ester unit and polybutadiene homopolymer, column 2, lines 28-39. The ester containing vinyl-terminated polybutadiene resin is a reaction product of a vinyl-terminated epoxide with a carboxyl-terminated polybutadiene, column 6, lines 36-67. Alternatively, an ester containing vinyl-terminated polybutadiene resin is prepared by the reaction of an epoxy-terminated polybutadiene resin with a vinyl-terminated carboxylic acid, column 7, lines 21-55. Thus, reference discloses a resulting product that is produced by the esterification of a hydroxyl functional polybutadiene and a vinyl-terminated carboxylic acid, column 8, lines 31-36. Esterification reaction is readable in applicants' claims 1-3. Polyolefin can be produced by well-known chemistry utilizing catalyst, column 4, line 63.

7. The difference between the present claim 1 and Lane is the requirement in the present claim that a polyolefin is obtained by polymerization of olefin in the presence of

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a coordination polymerization catalyst containing a transition metal compound and said polyolefin has a molecular weight distribution ( $M_w/M_n$ ) equal to or more than 1.5.

Schlaefter discloses a product produced by a transesterification reaction of synthetic wax alcohol with (meth)acrylate ester, column 2, lines 3-15. The esterification reaction is readable in applicants' claims 1-3.

JP 06329720 discloses polyethylene macromonomers derivative produced by oxidizing with oxygen to produce polyethylene alkoxide and subsequently reacted with (meth)acrylic acid halide (abstract). This reference has been discussed in Patent 5,856,611 at column 1, lines 19-25. JP'720 discloses an esterification process for making a (meth)acryloyl terminated polyethylene having vinyl terminal end.

None of these references discloses polyolefin produced by a coordination polymerization catalyst containing a transition metal compound.

Tatsumi discloses a reactive olefin macromonomer produced by the polymerization of a propylene-based homopolymer in the presence of a metallocene catalyst, column 18, lines 40-51. The propylene-based homopolymer has a ratio of  $M_w/M_n$  between 1.5 and 4.5, column 5, lines 46-48, for the present claims.

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It would have been obvious to one of ordinary skill in the art to modify each invention of the primary reference by employing a polyolefin produced by a metallocene catalyst disclosed by Tatsumi because the polyolefins in Lane's invention or Schlaefer, or JP'720 can be produced by any method, since it is depending on the desired characteristic of the obtained polyolefin such as Mw/Mn and a molecular weight of the obtained polyolefin, and since any catalyst can be used for making polyolefin resin in each primary reference.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O-A

Dec 30, 2004

Olga Asinovsky  
Examiner  
Art Unit 1711

  
James J. Seidleck  
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